

Fig. 1

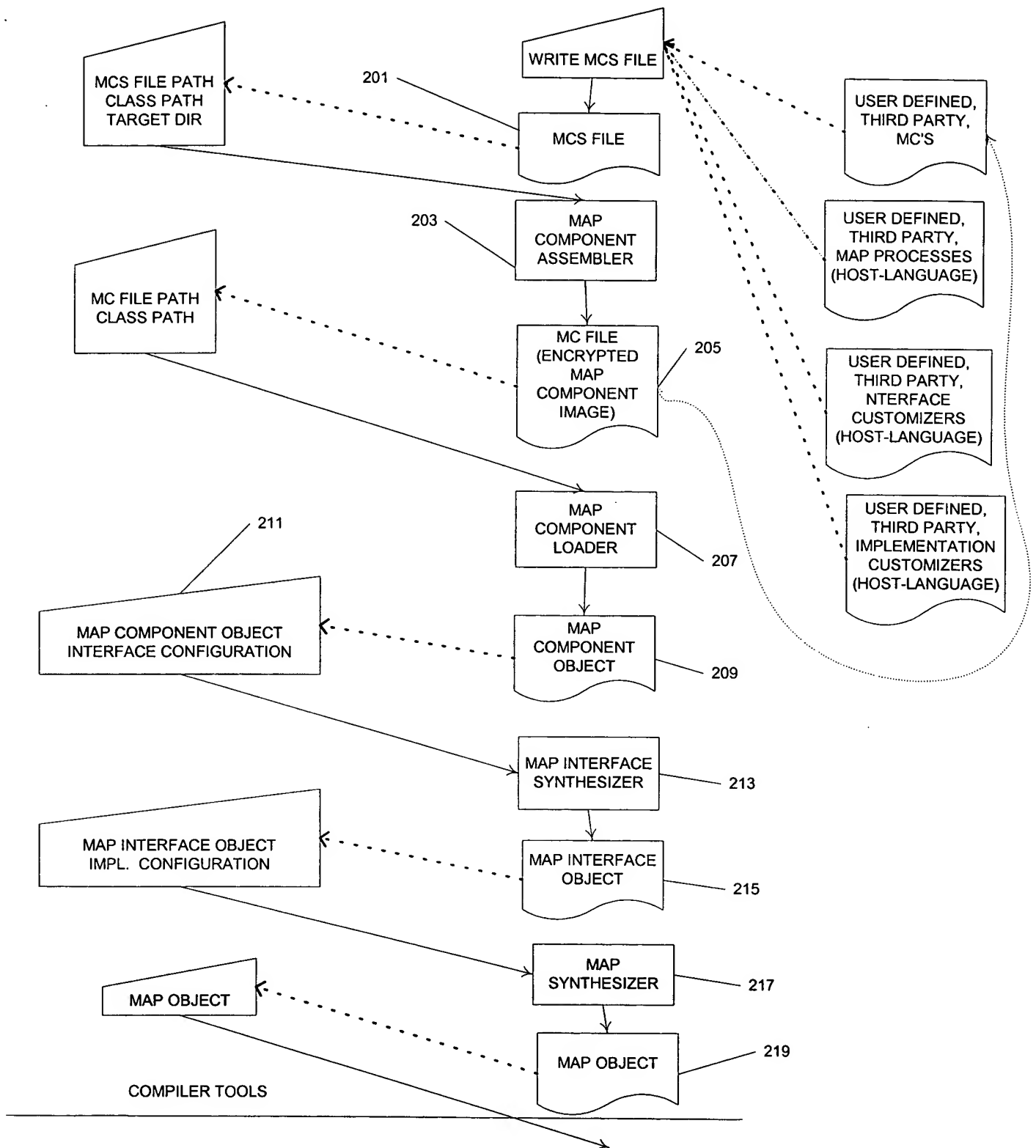


Fig. 2A

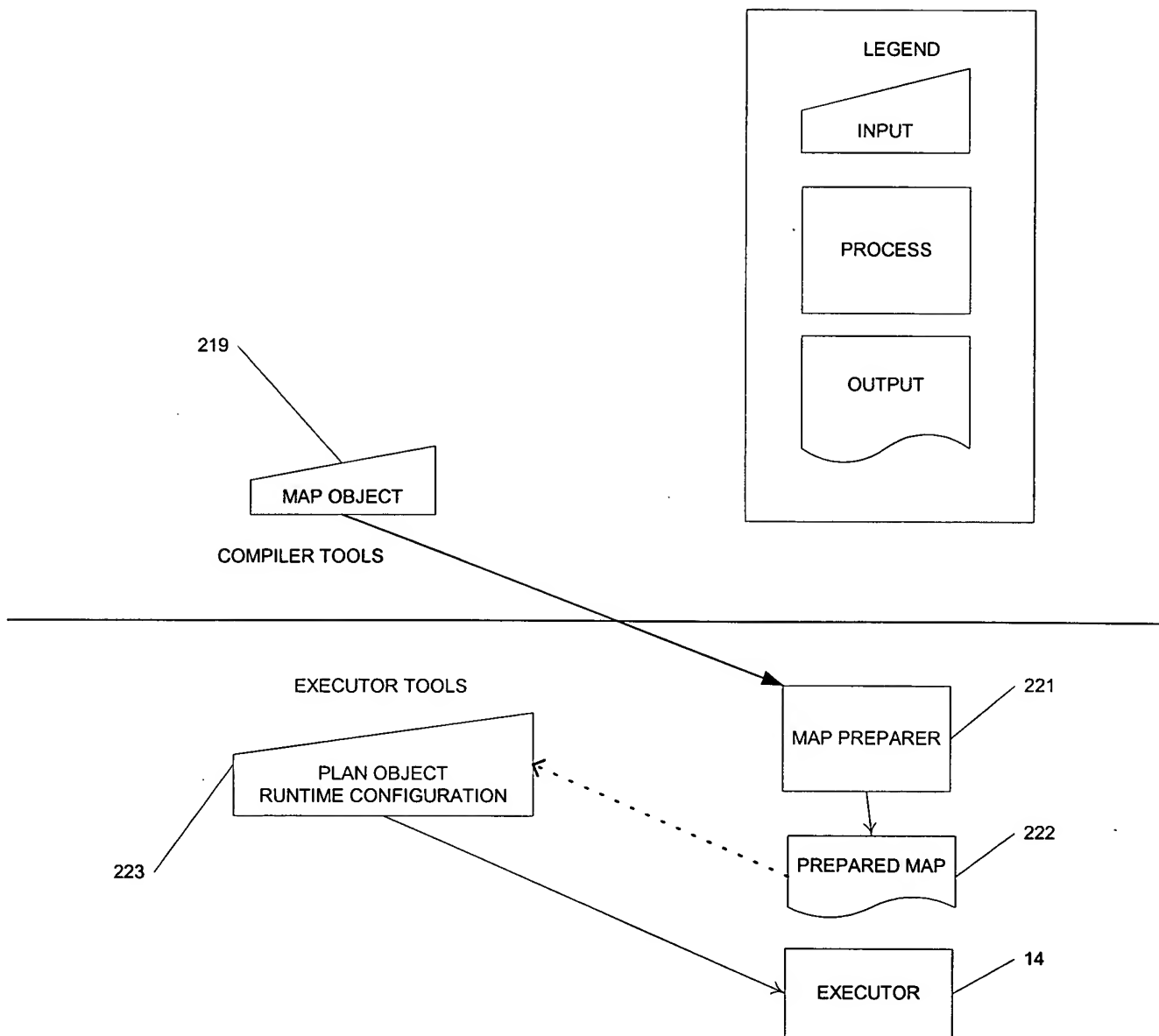


Fig. 2B

MAP COMPONENT SOURCE CREATION

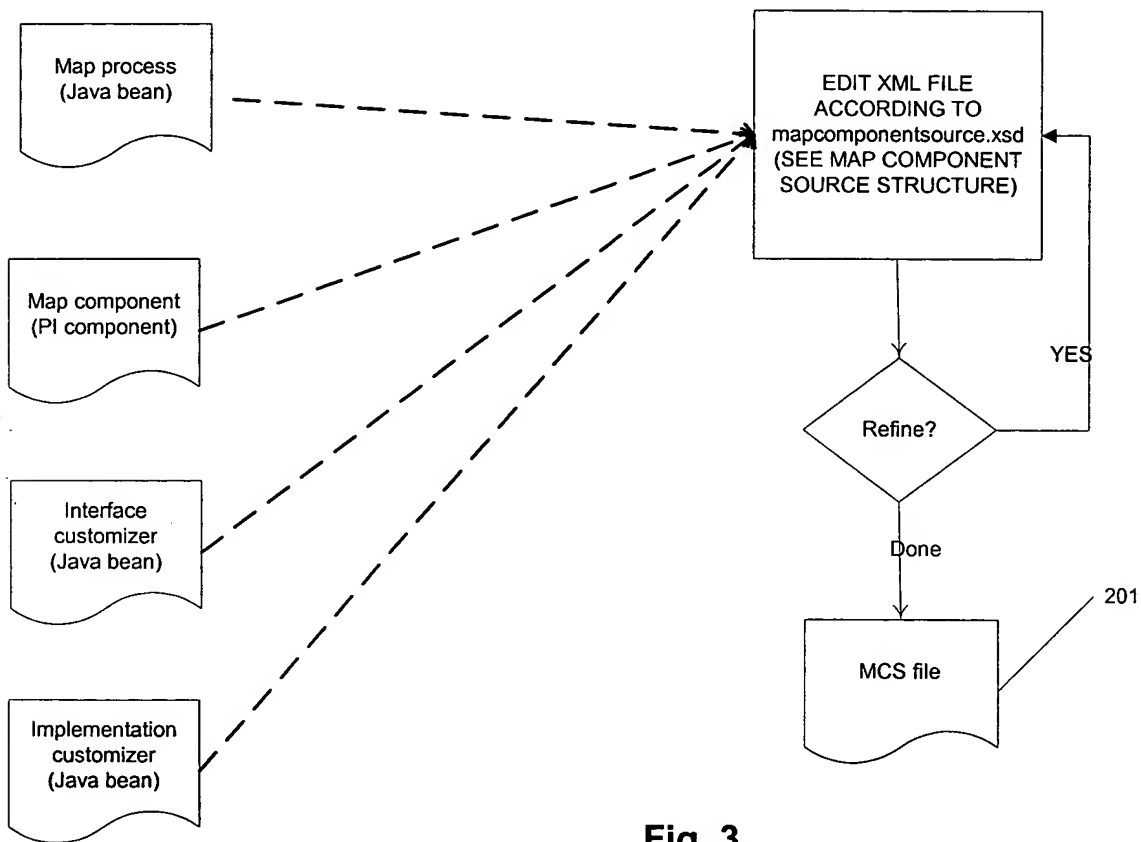


Fig. 3

Fig. 4

INTERFACE

DOCUMENTATION

INTERFACE PROPERTY LIST
IMPLEMENTATION PROPERTY LIST
RUNTIME PROPERTY LIST

PORT DECLARATION LIST ...

CUSTOMIZER DECLARATION AND
CONFIGURATION

IMPLEMENTATION

INTERNAL MAP COMPONENT INSTANCE
DECLARATION LIST... (AND CONFIGURATIONS)

INTERNAL MAP PROCESS INSTANCE
DECLARATION LIST... (AND CONFIGURATIONS)

PORT TO PORT LINK LIST...

CUSTOMIZER DECLARATION AND
CONFIGURATION

MAP COMPONENT ASSEMBLY PROCESS

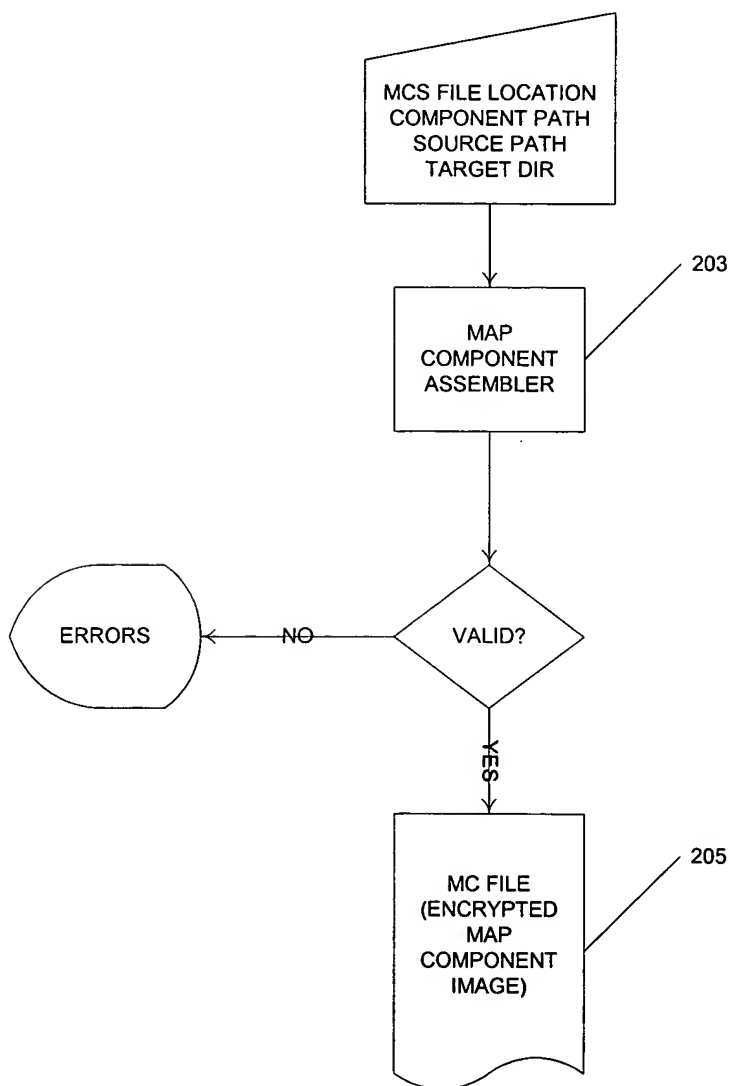


Fig. 5

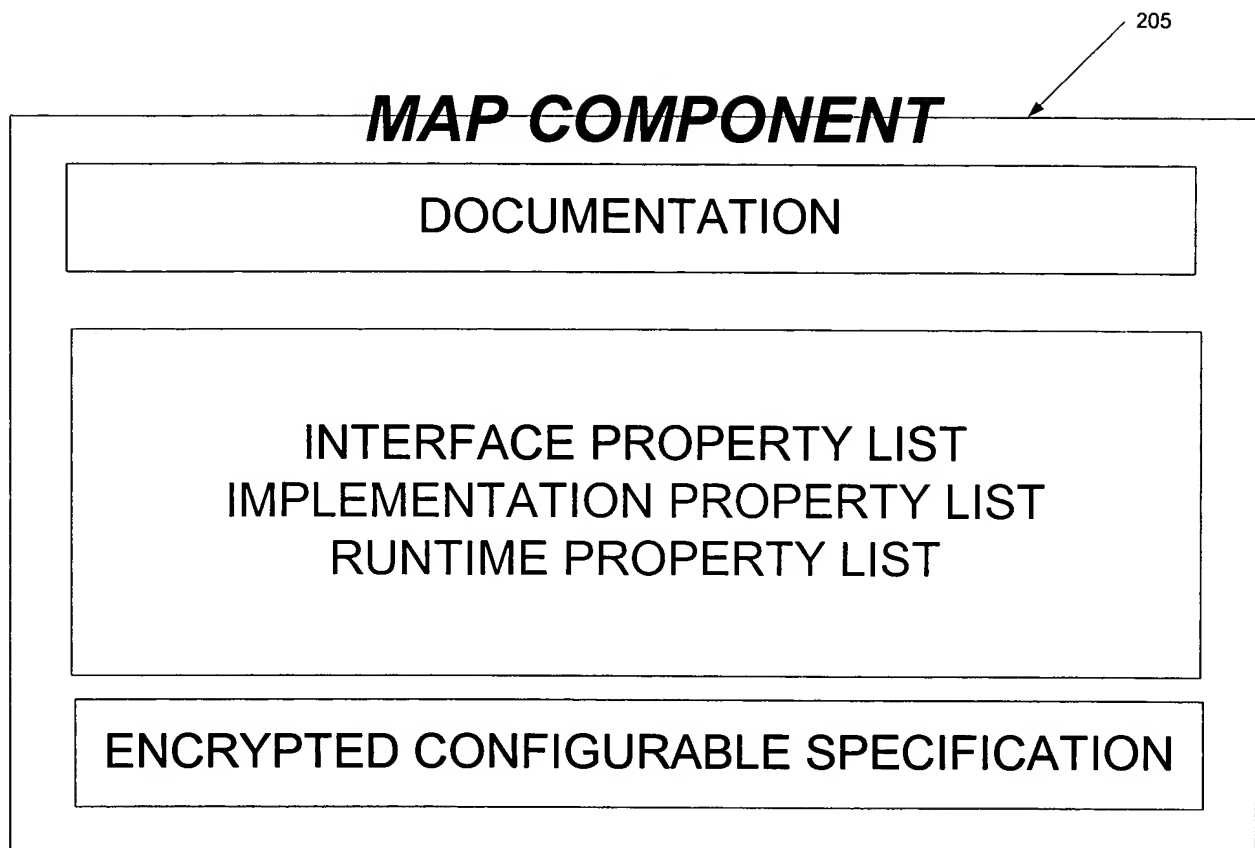


Fig. 6

MAP COMPONENT LOADING

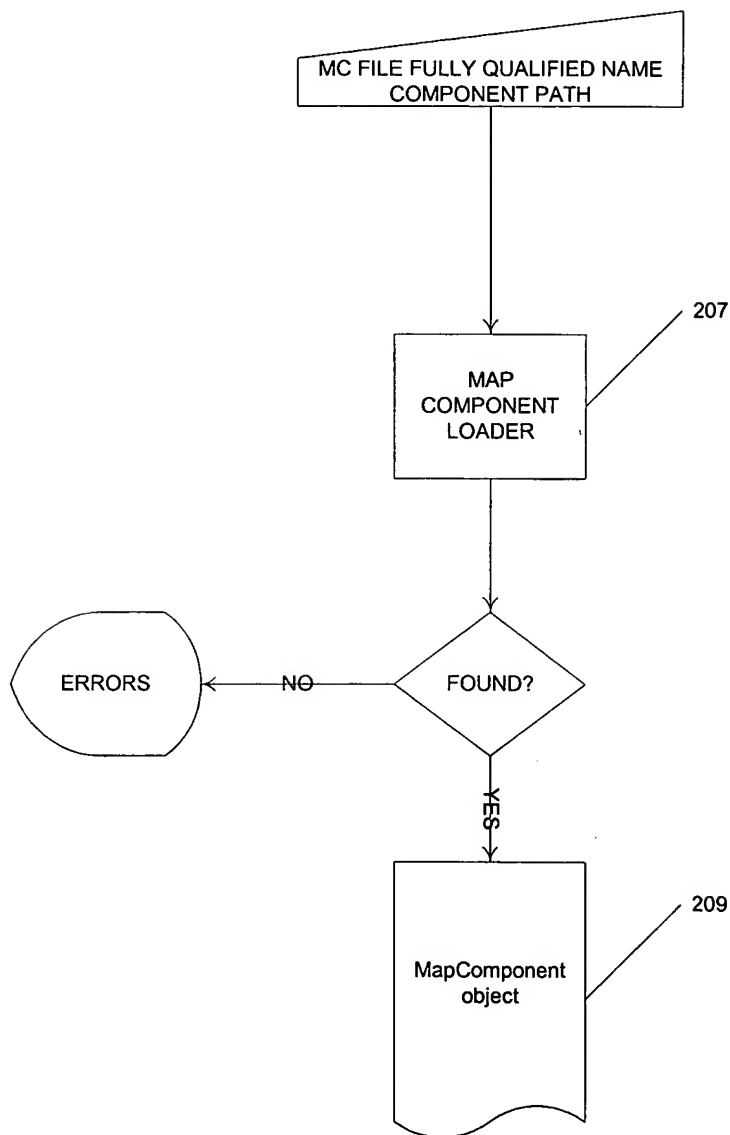


Fig. 7

MAP INTERFACE SYNTHESIS

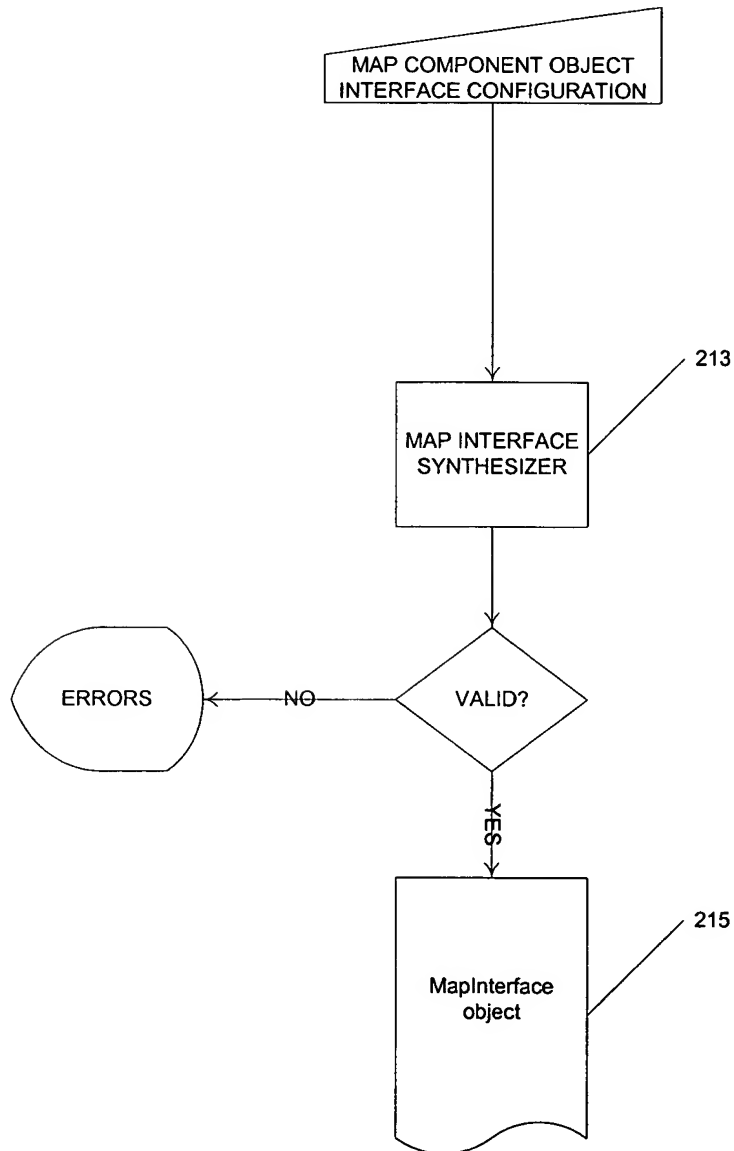


Fig. 8

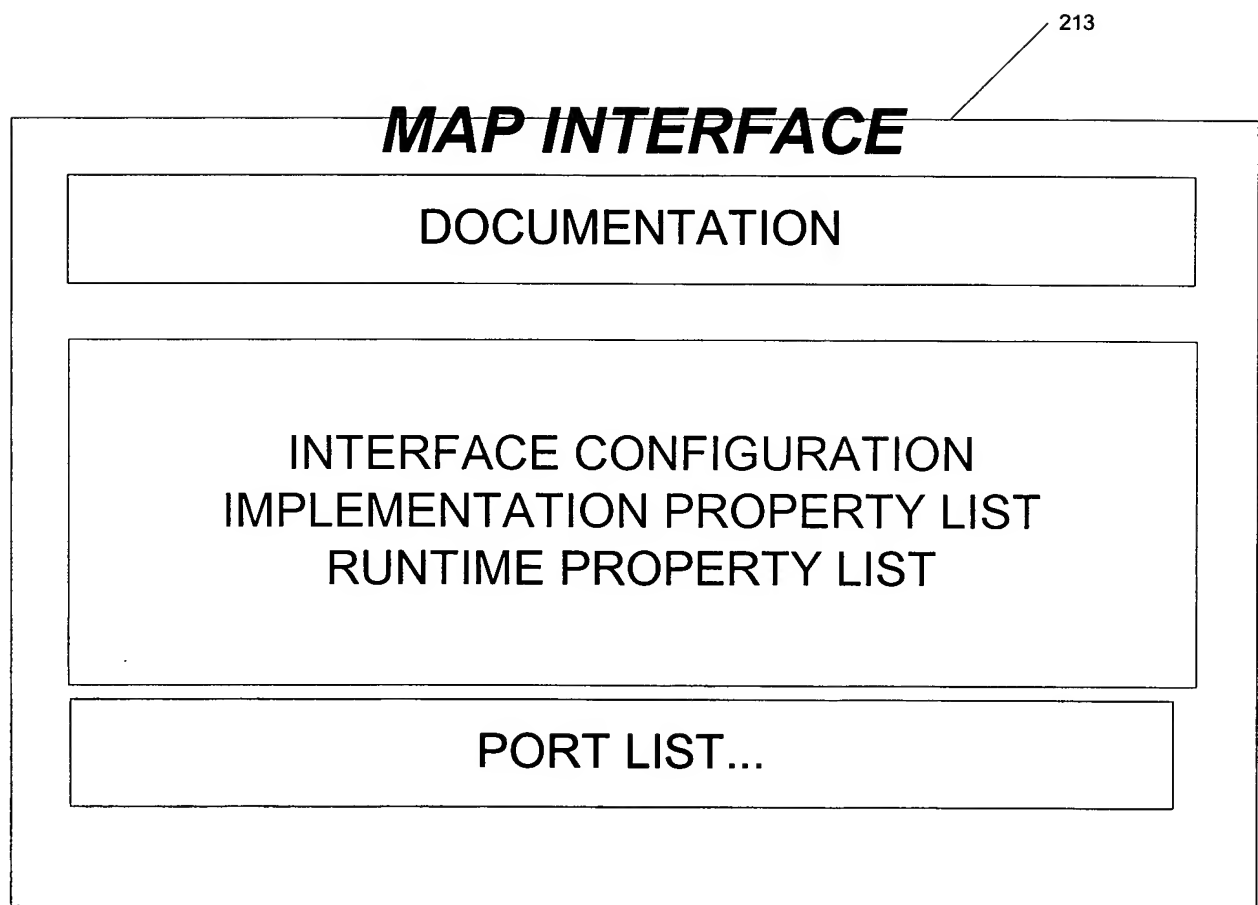


Fig. 9

MAP SYNTHESIS

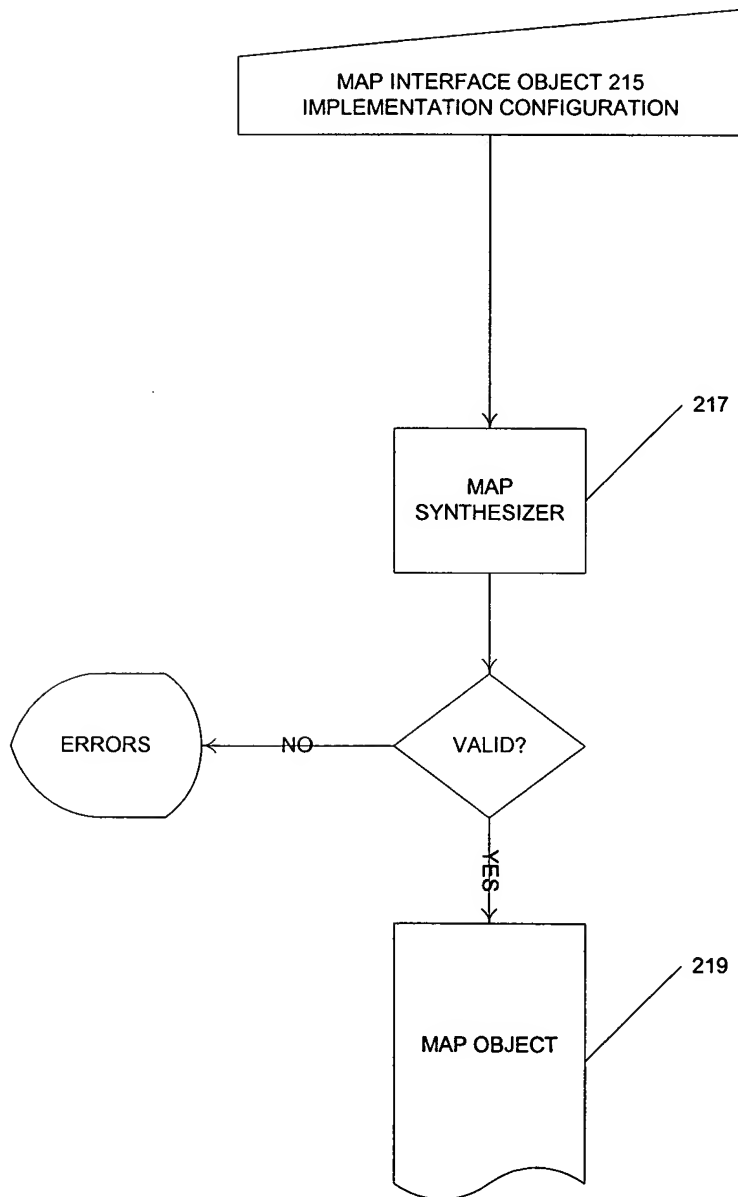


Fig. 10

Fig. 11

MAP

DOCUMENTATION

INTERFACE CONFIGURATION
IMPLEMENTATION CONFIGURATION
RUNTIME PROPERTY LIST

INTERFACE

PORT DECLARATION LIST ...

IMPLEMENTATION (if open)

INTERNAL MAP COMPONENT INSTANCE
DECLARATION LIST... (AND CONFIGURATIONS)

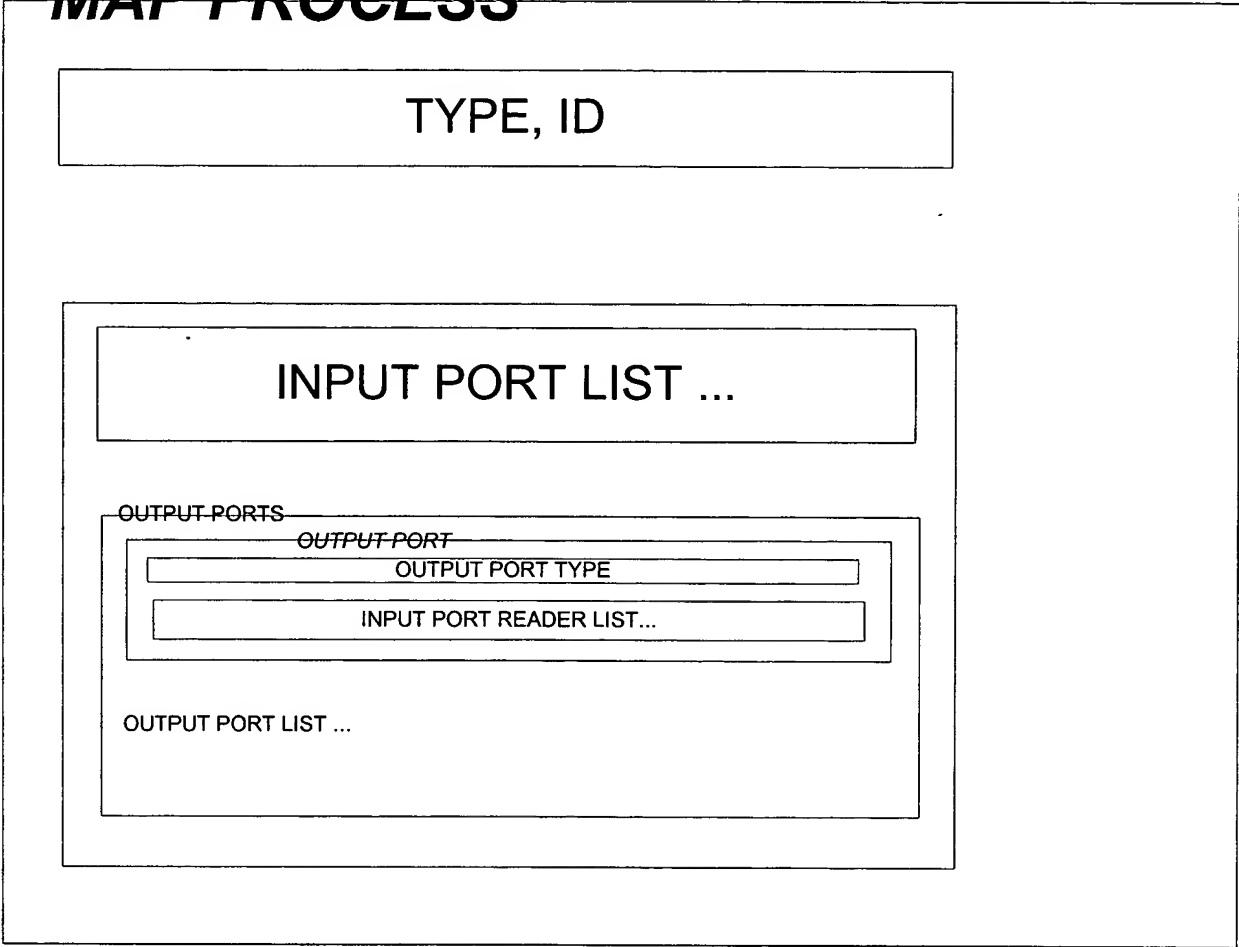
INTERNAL MAP PROCESS INSTANCE
DECLARATION LIST... (AND CONFIGURATIONS)

PORT TO PORT LINK LIST...

INTERNAL MAP LIST...

Fig. 12

MAP PROCESS



MAP PROCESS LIST ...

MAP PREPARATION

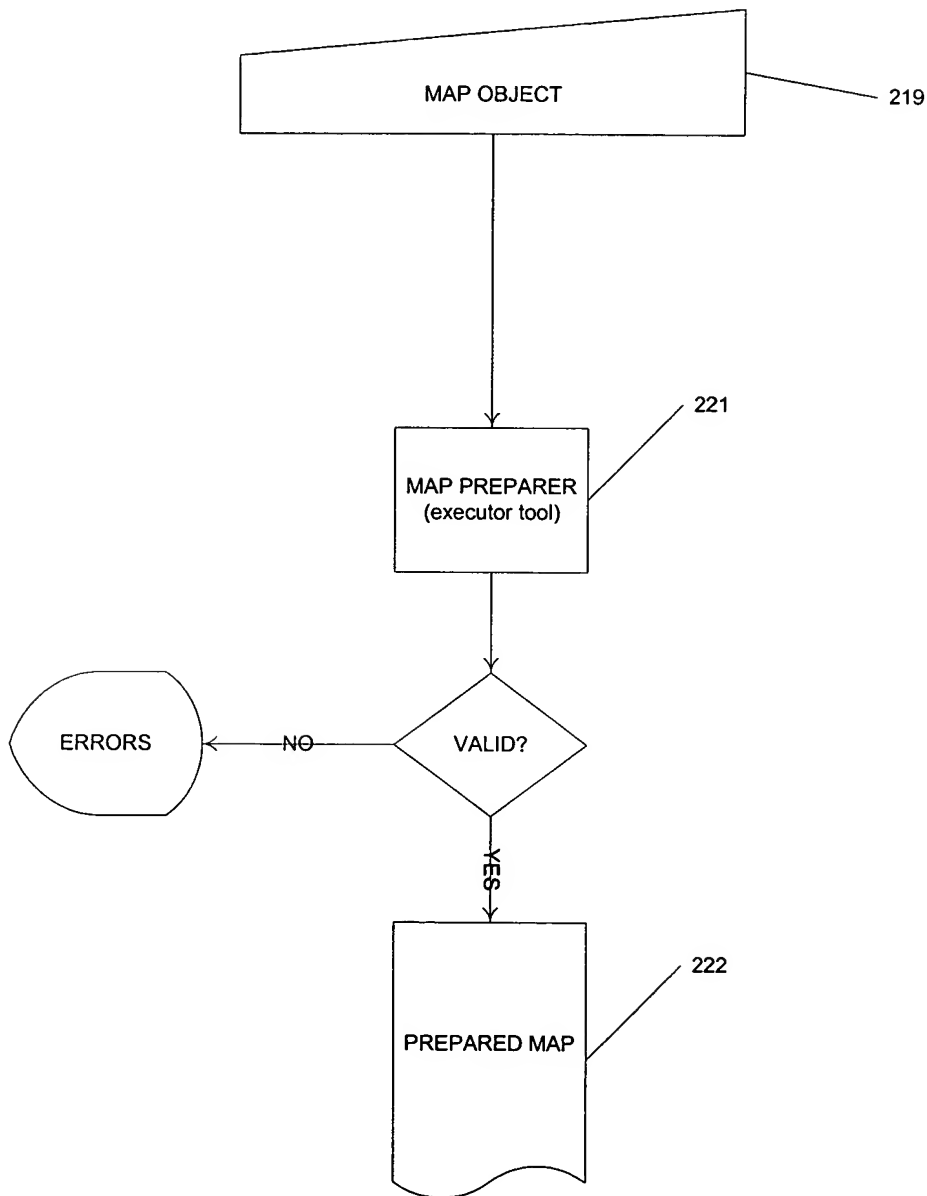


Fig. 13

PREPARED MAP EXECUTION

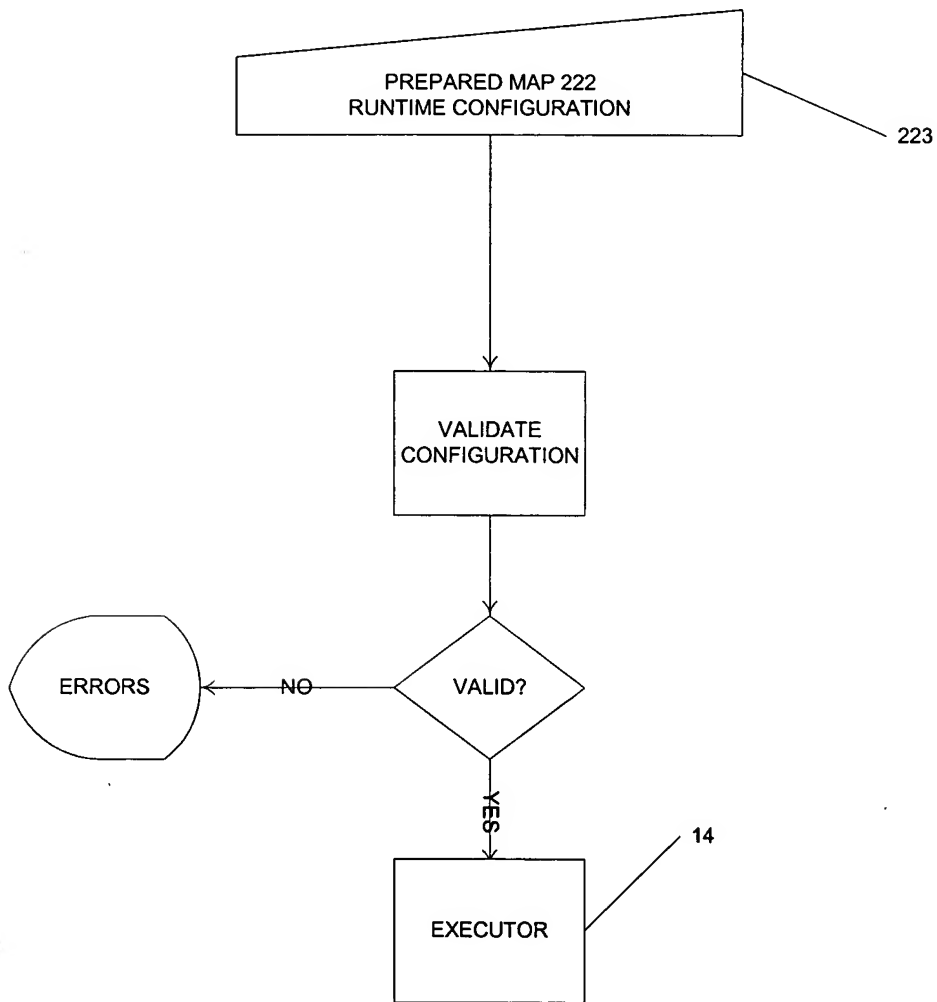


Fig. 14

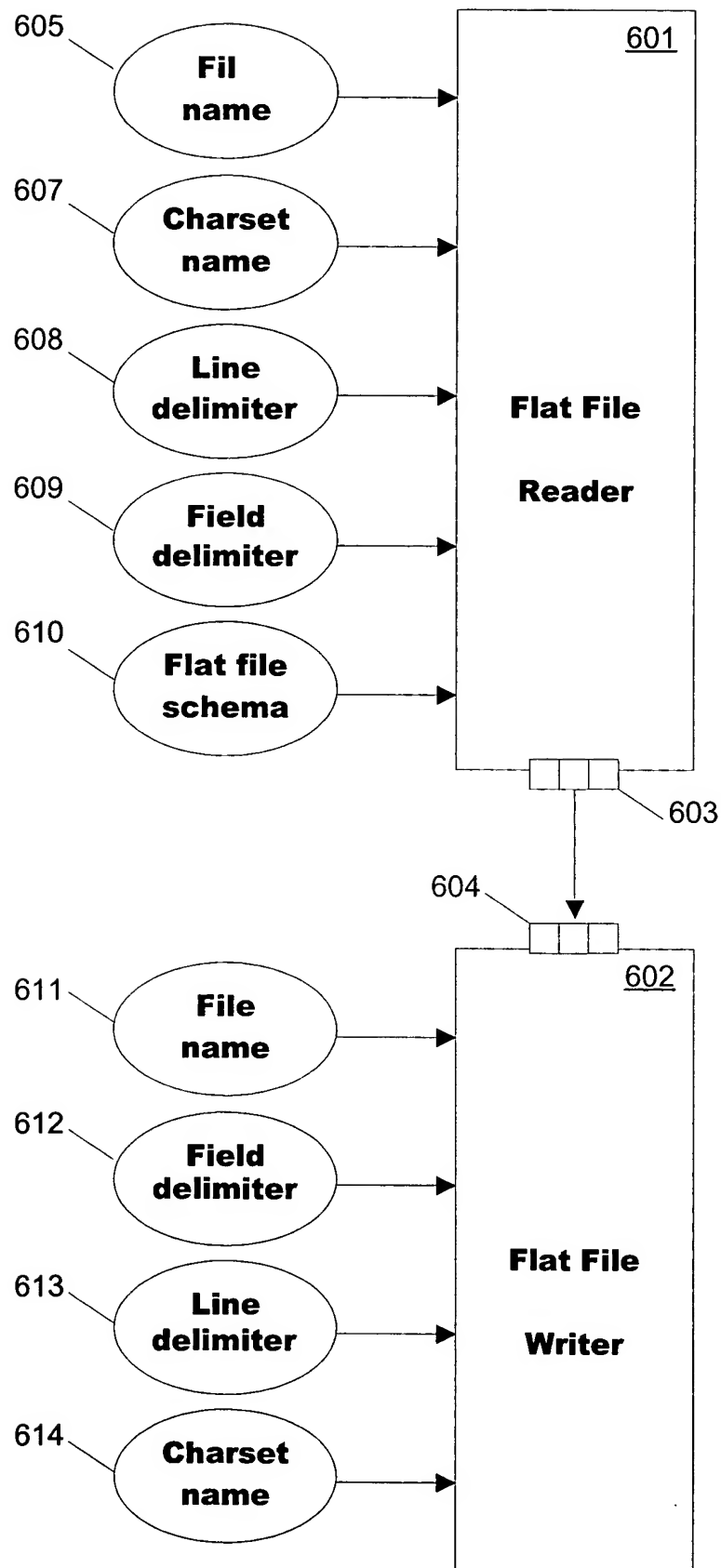


Fig. 15

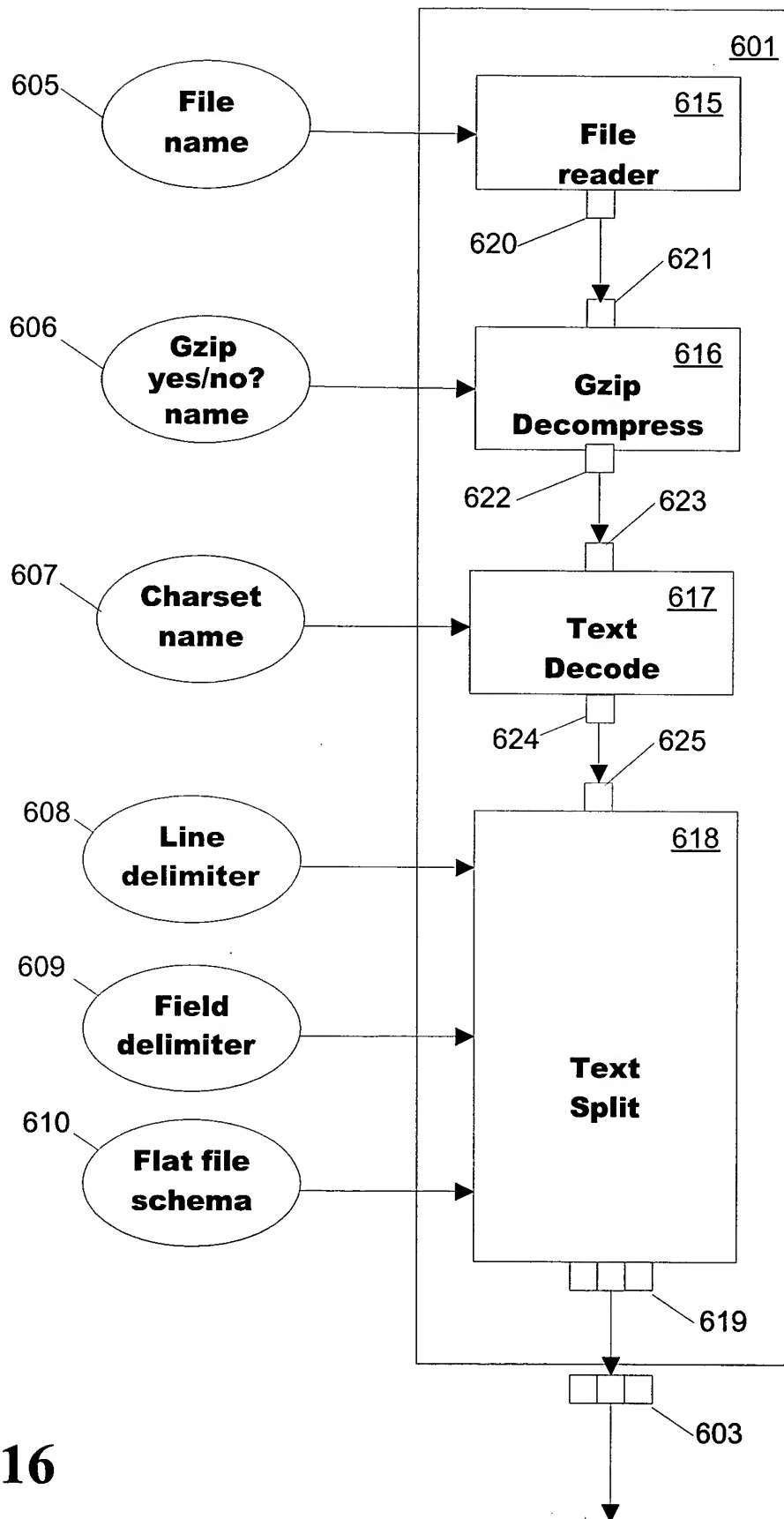


Fig. 16

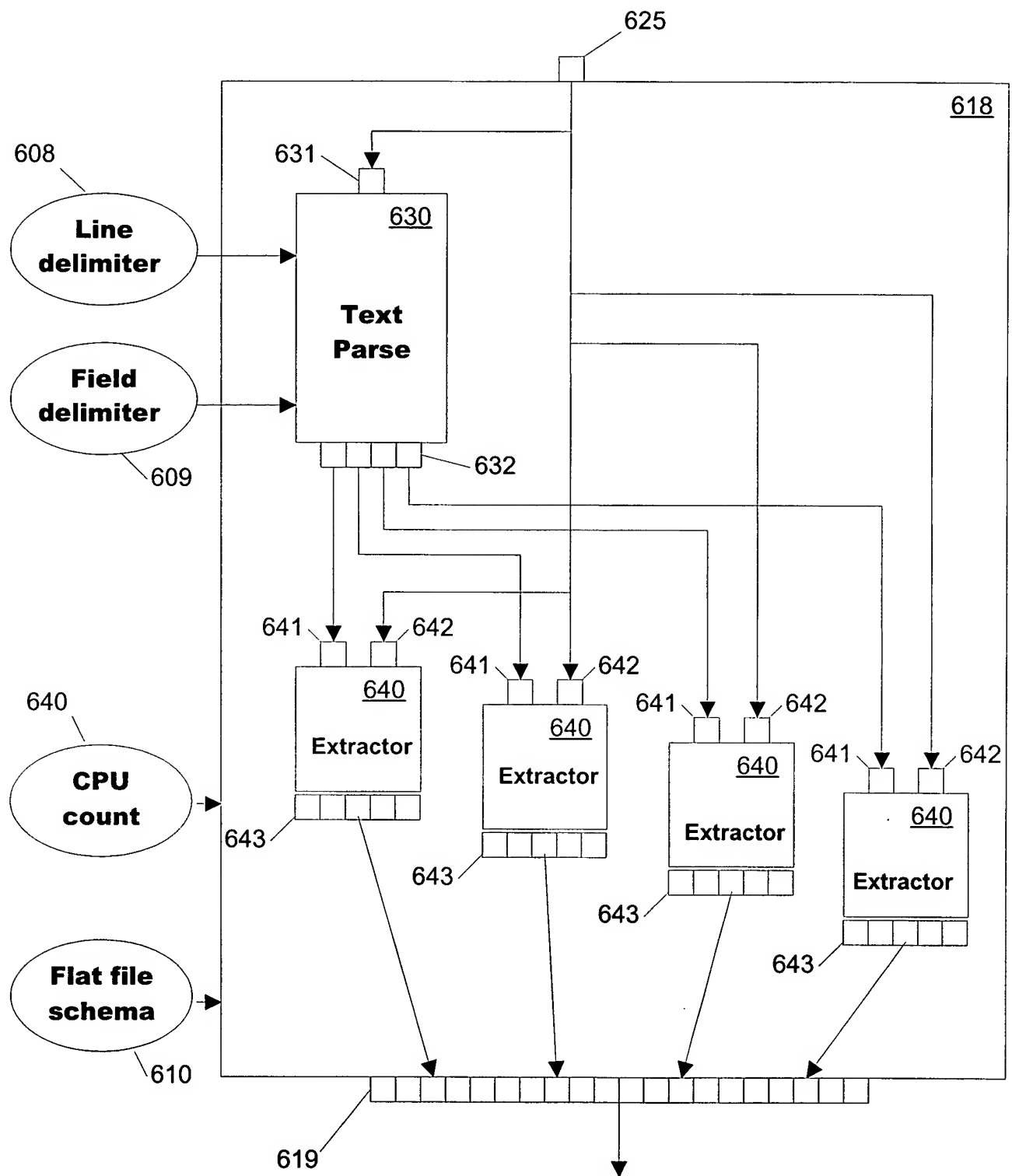
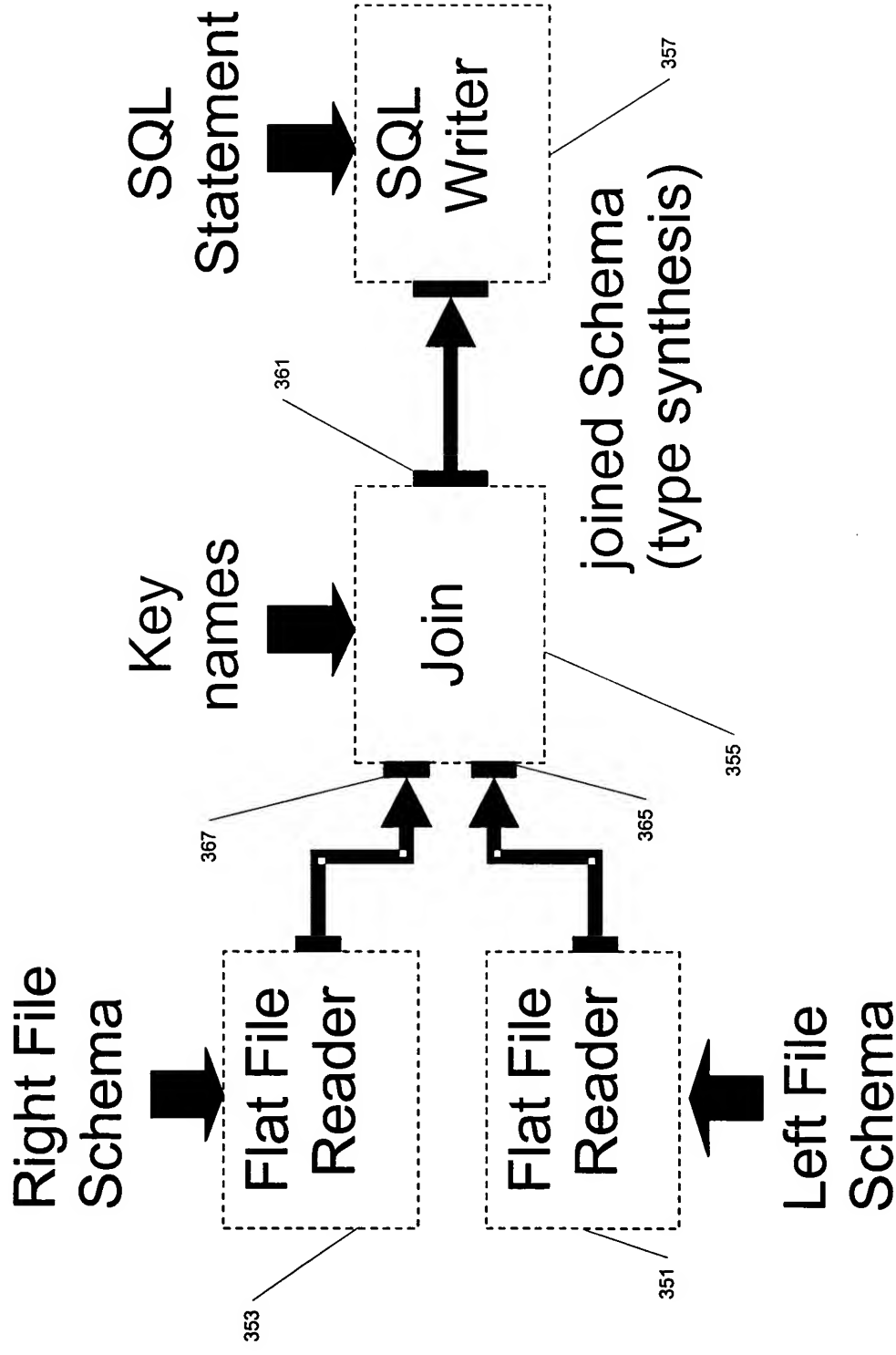


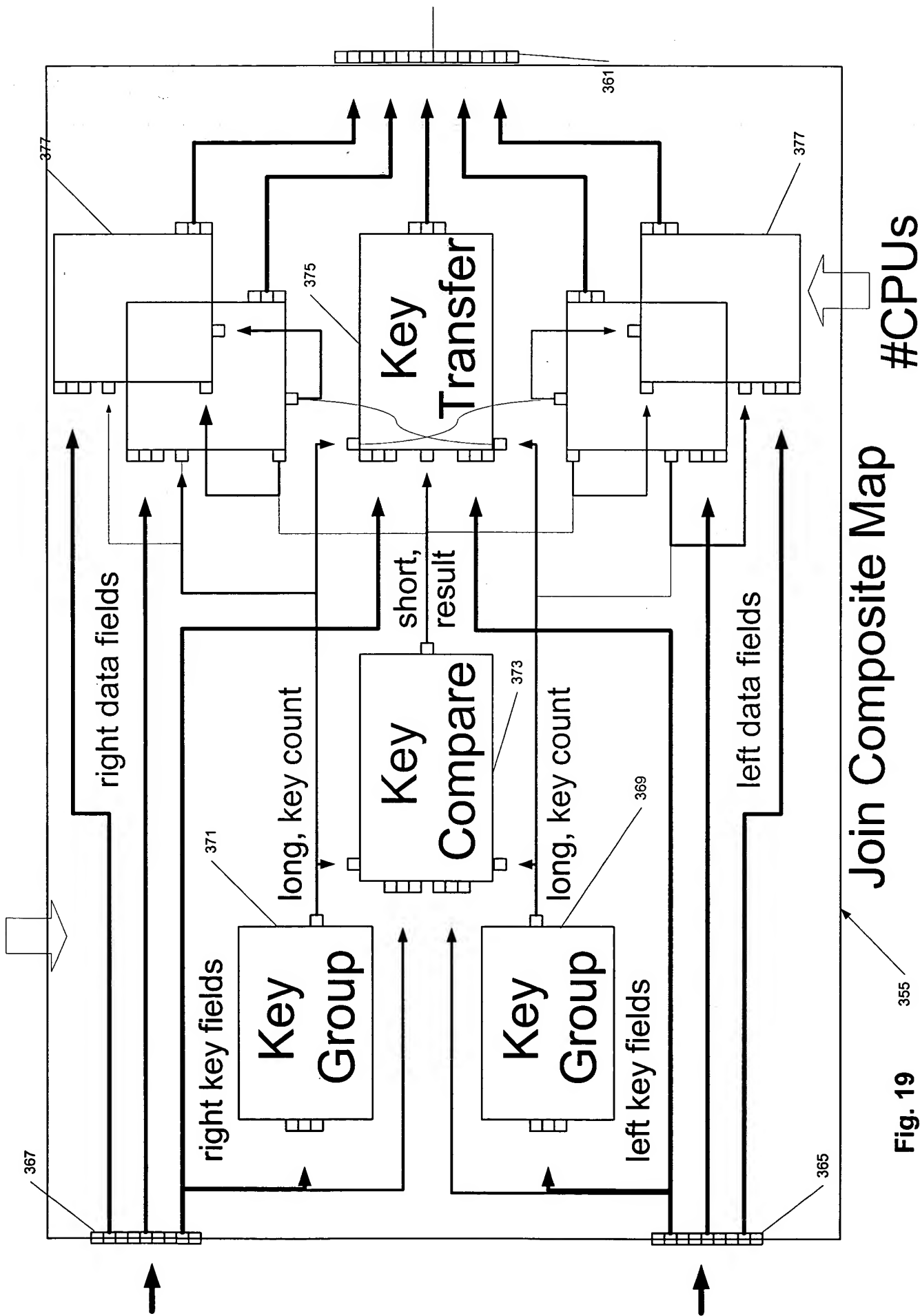
Fig. 17



Join Example

Fig. 18

Key names

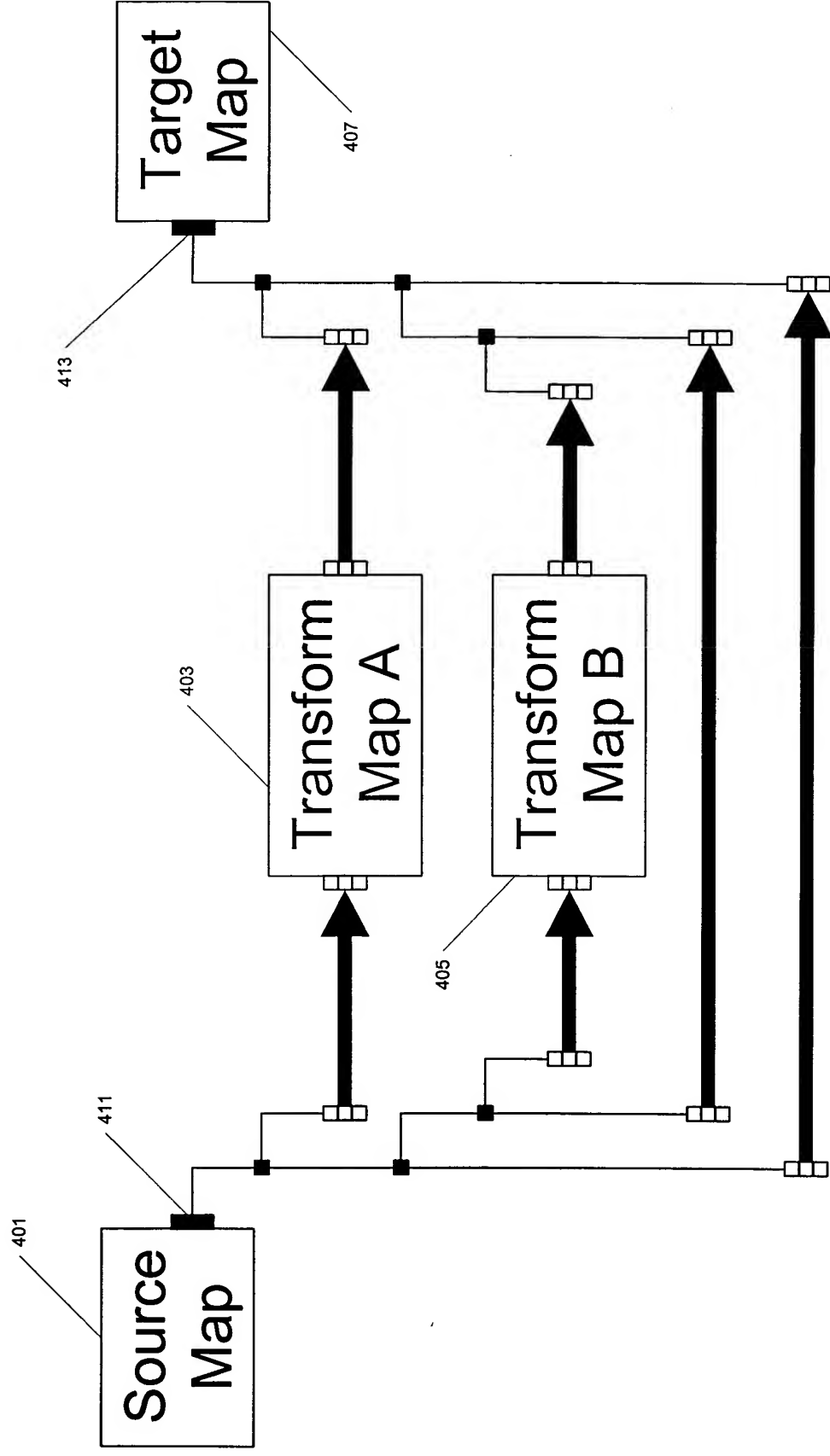


Join Composite Map

#CPUs

Fig. 19

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Hierarchical Composite Ports

Fig. 20

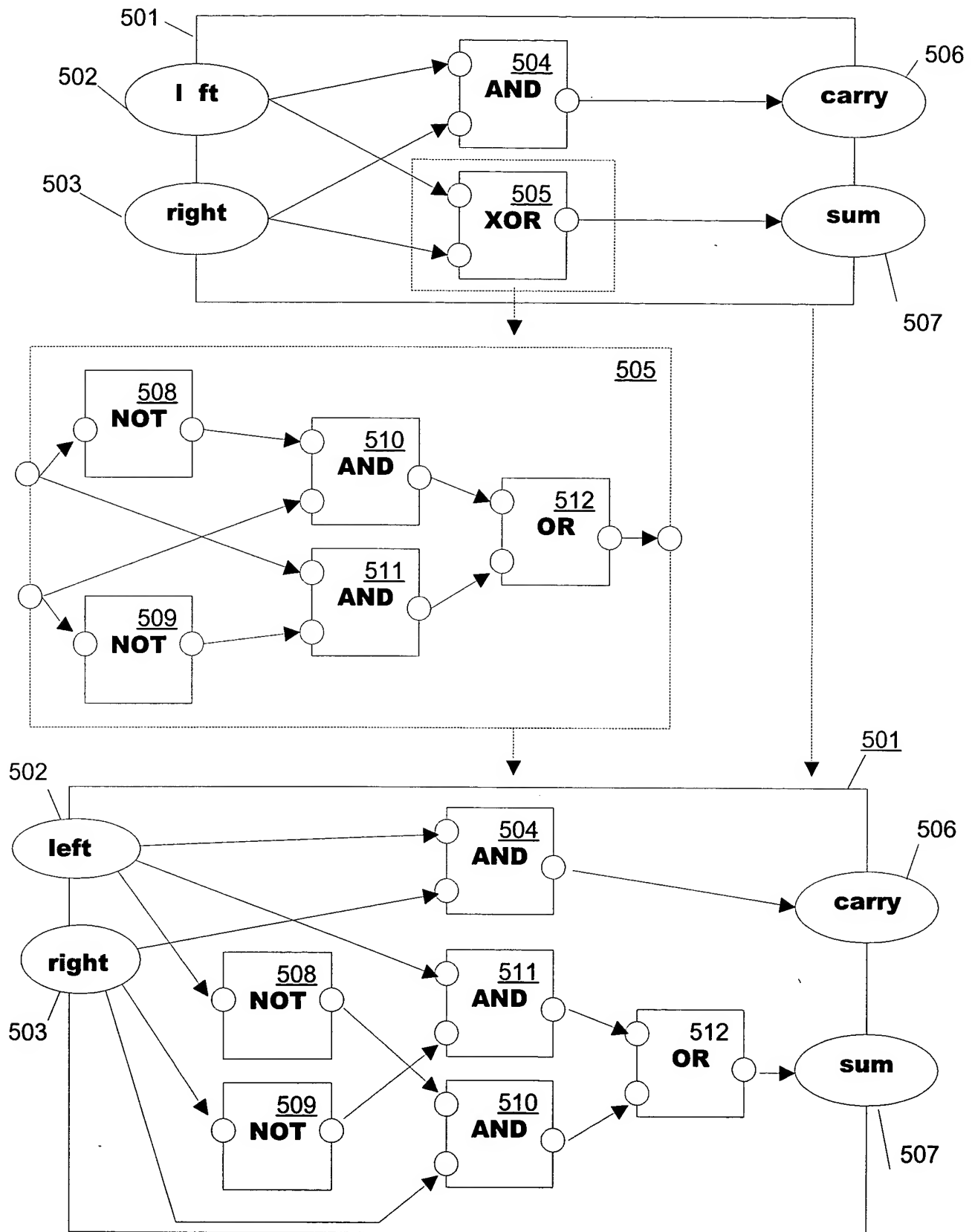
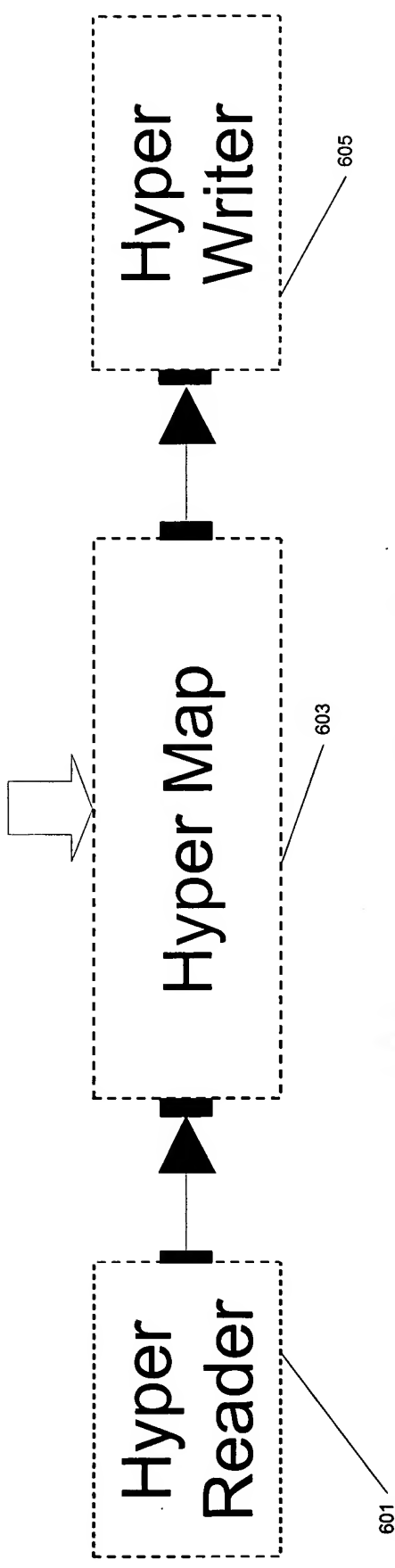


Fig. 21

Transformation map
+ properties



Hyper Map is a Map Template

Fig. 22

Transformation

map
+ properties

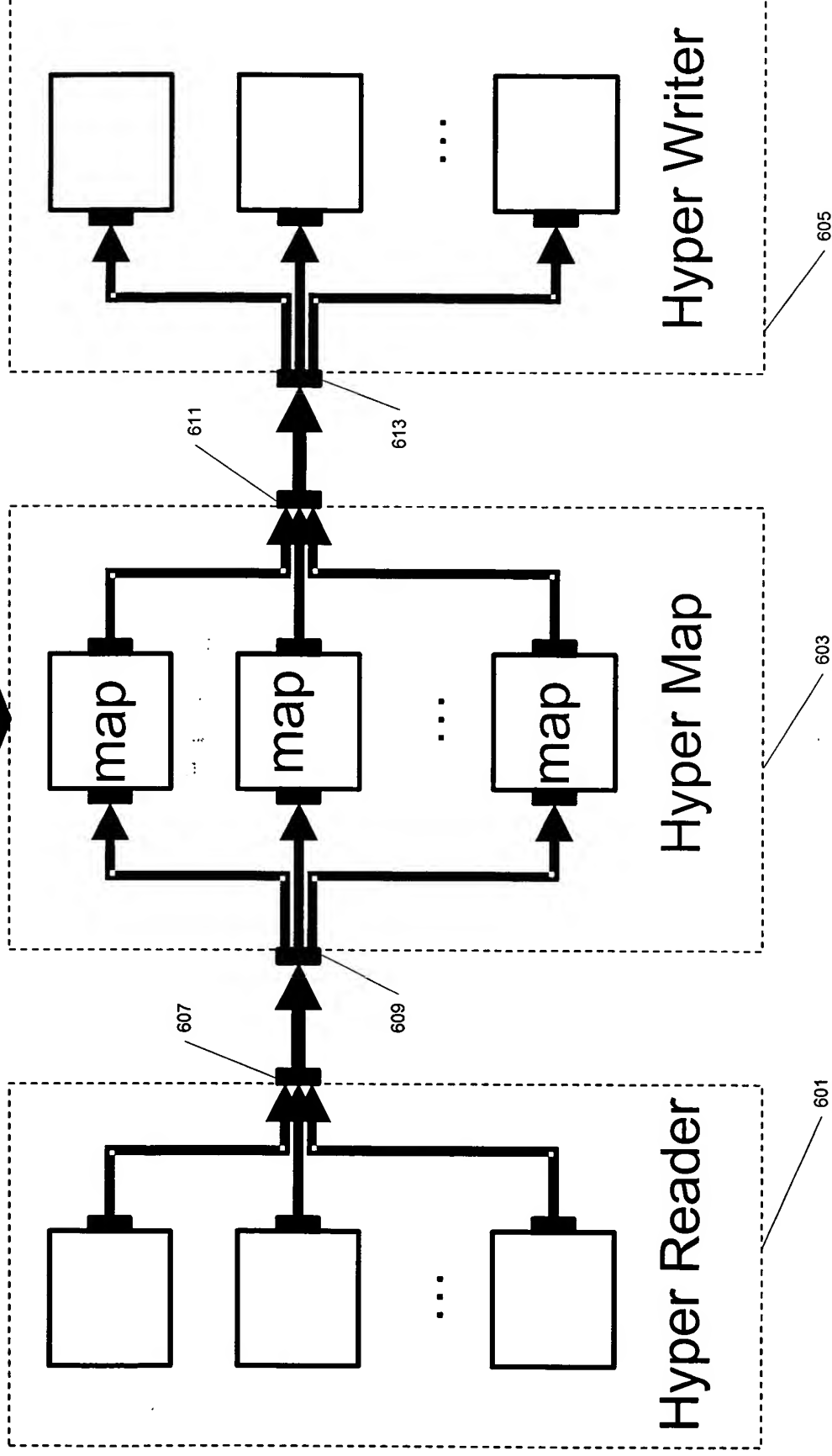


Fig. 23

Hyper Map Implements Partitioned Parallelism

Transformation map
+ properties

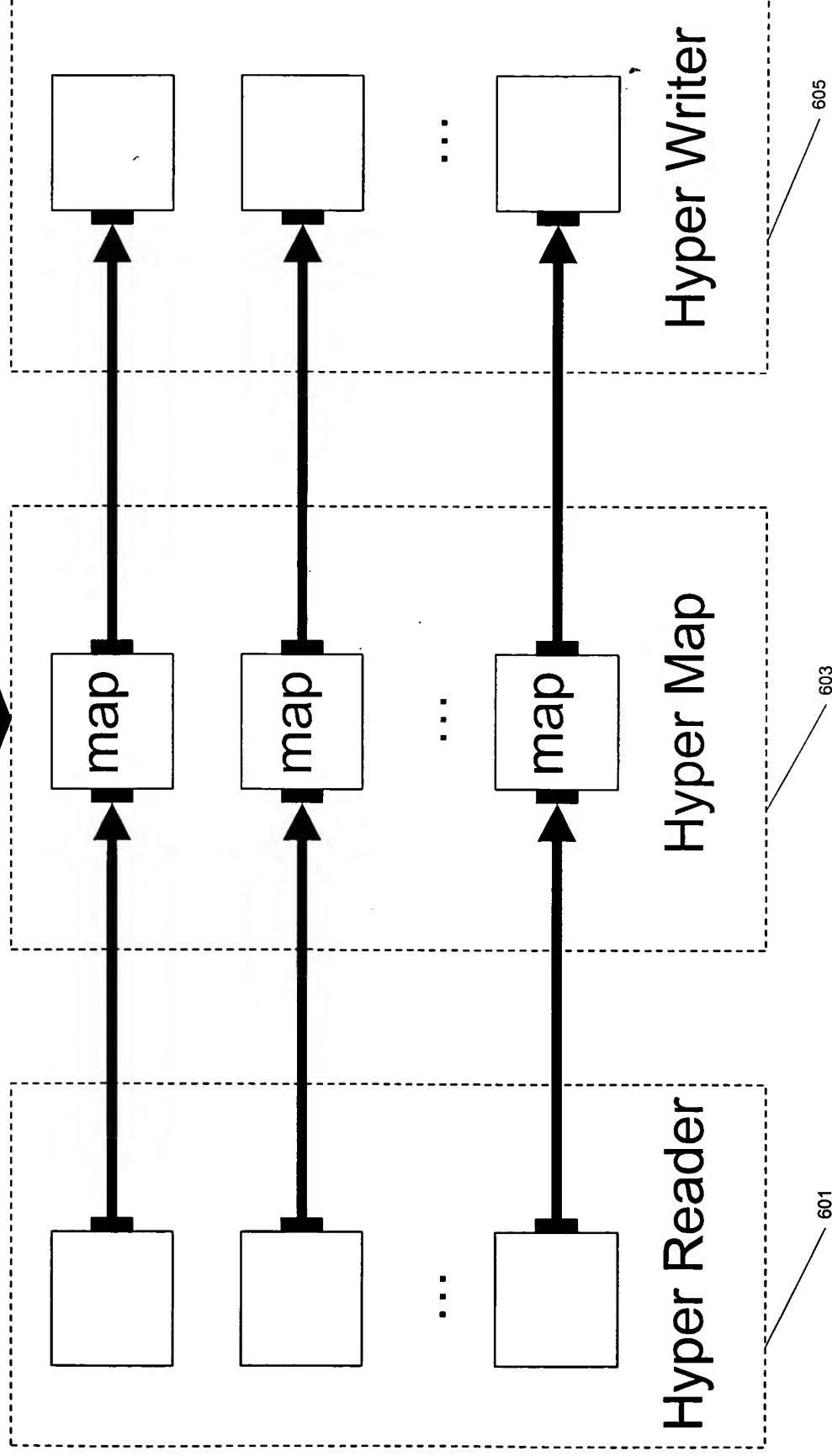


Fig. 24

Synthesis Trims Composite Map Links

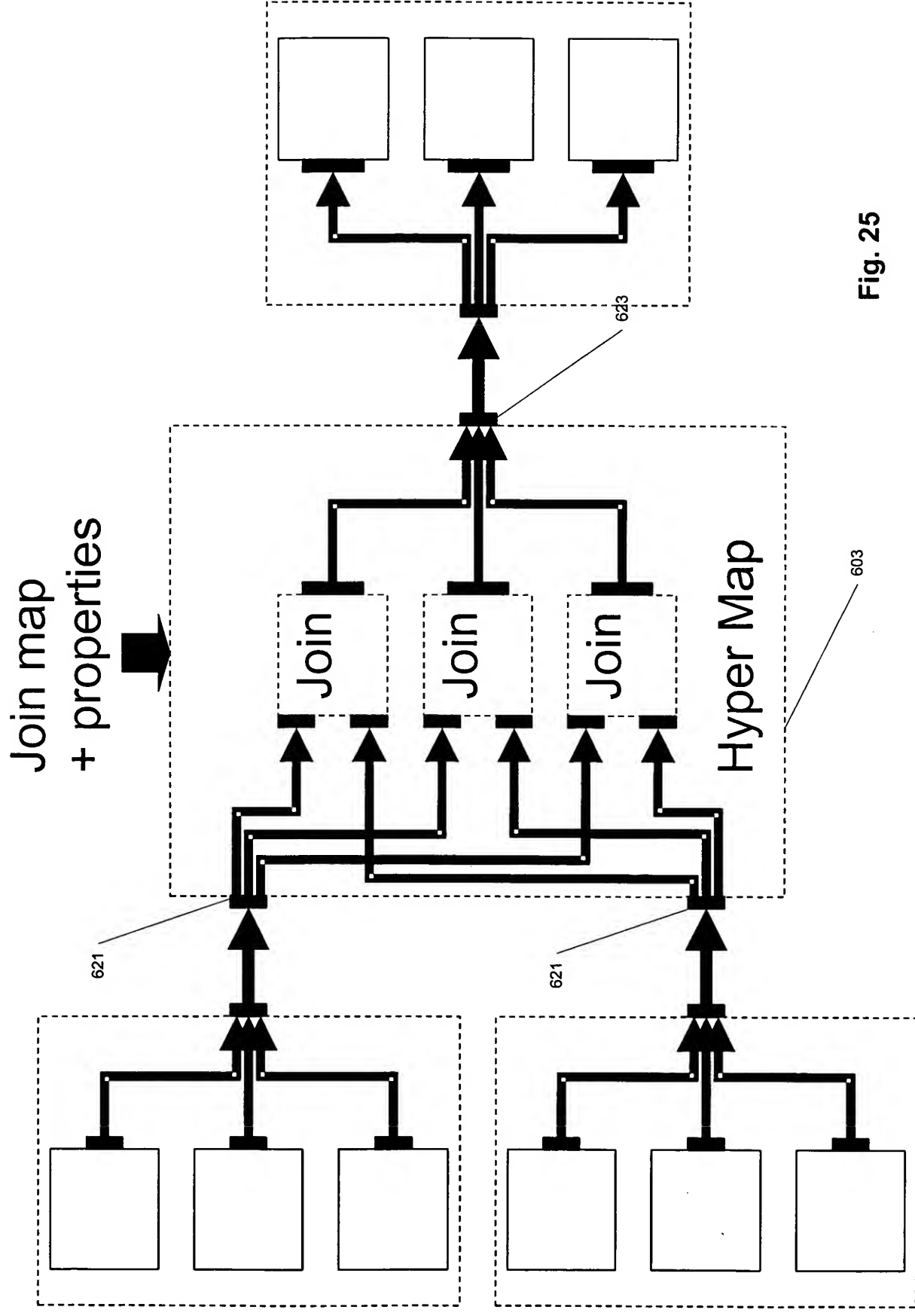


Fig. 25

Hyper Map Partitions another Map's Interface

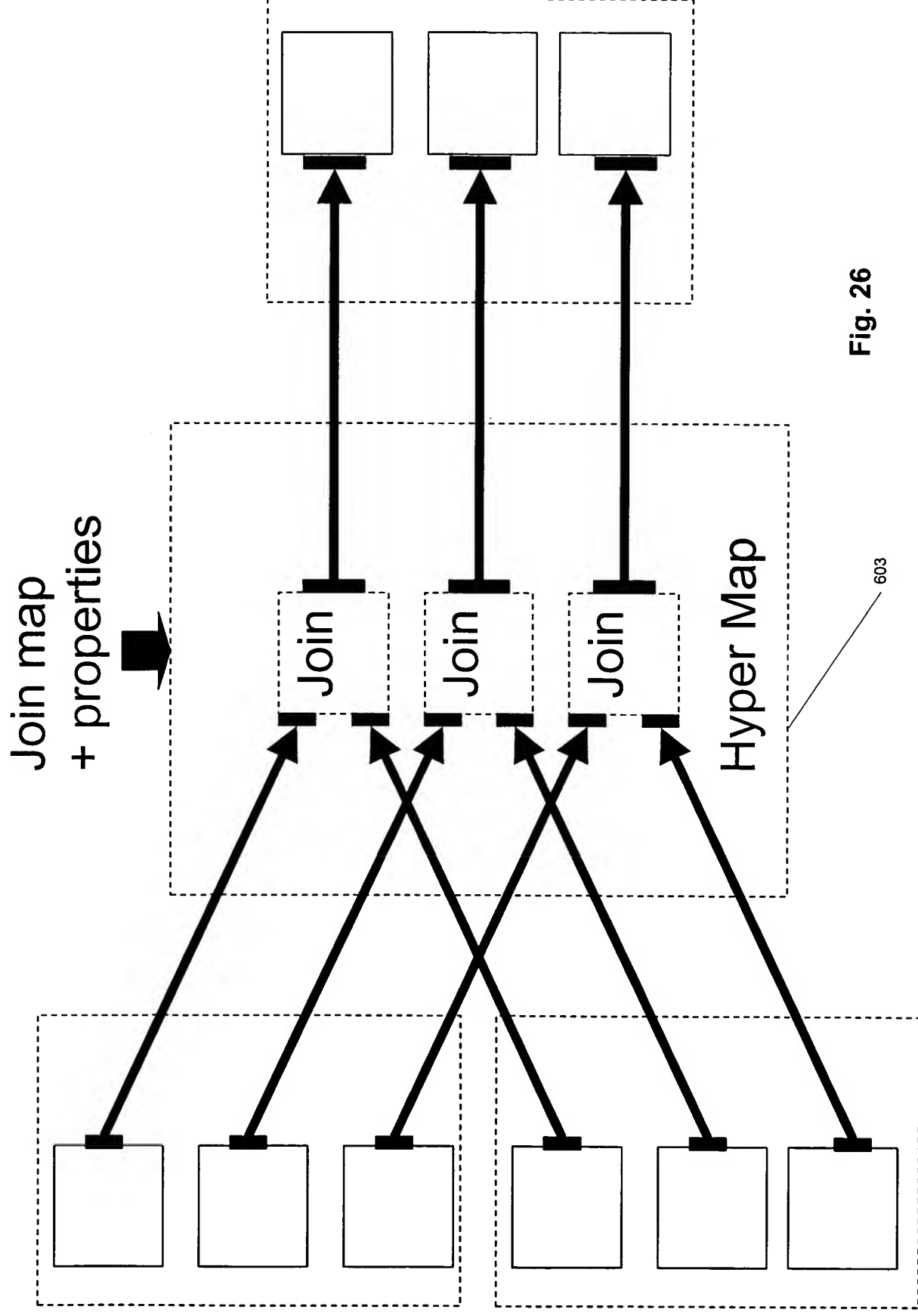


Fig. 26

603

Hyper Map Implements Partitioned Join

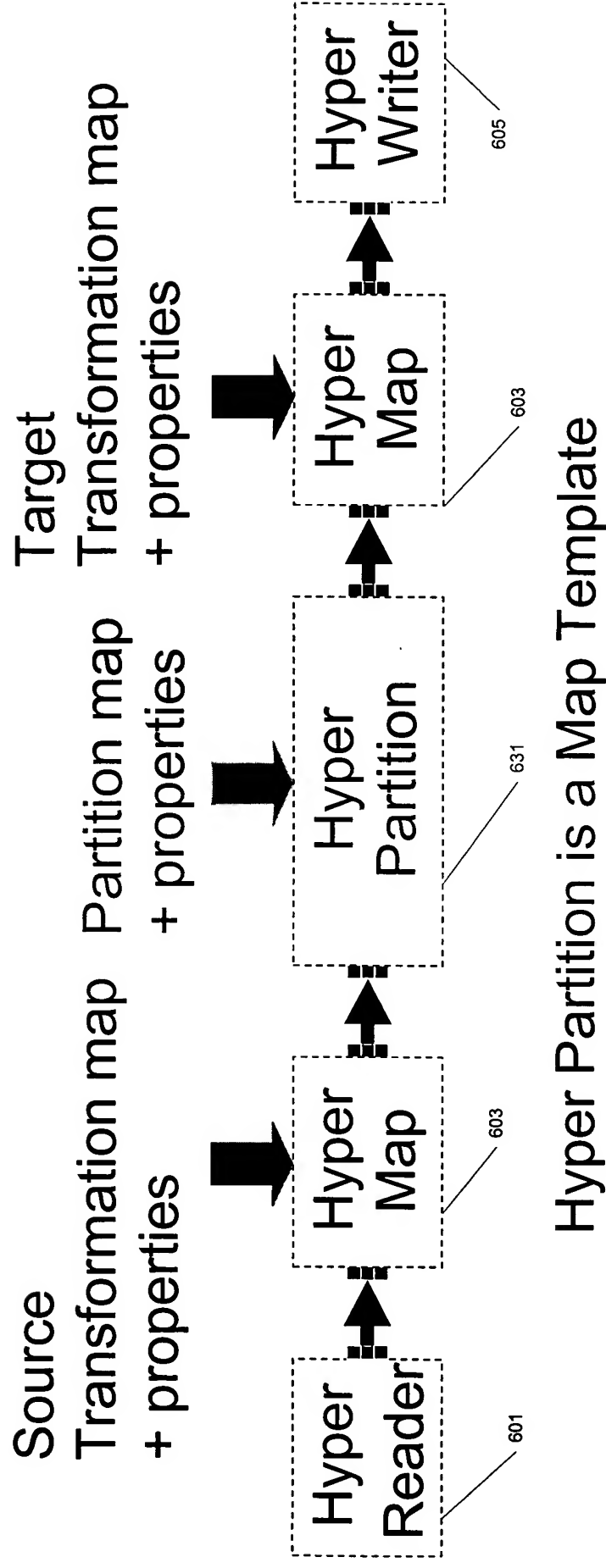
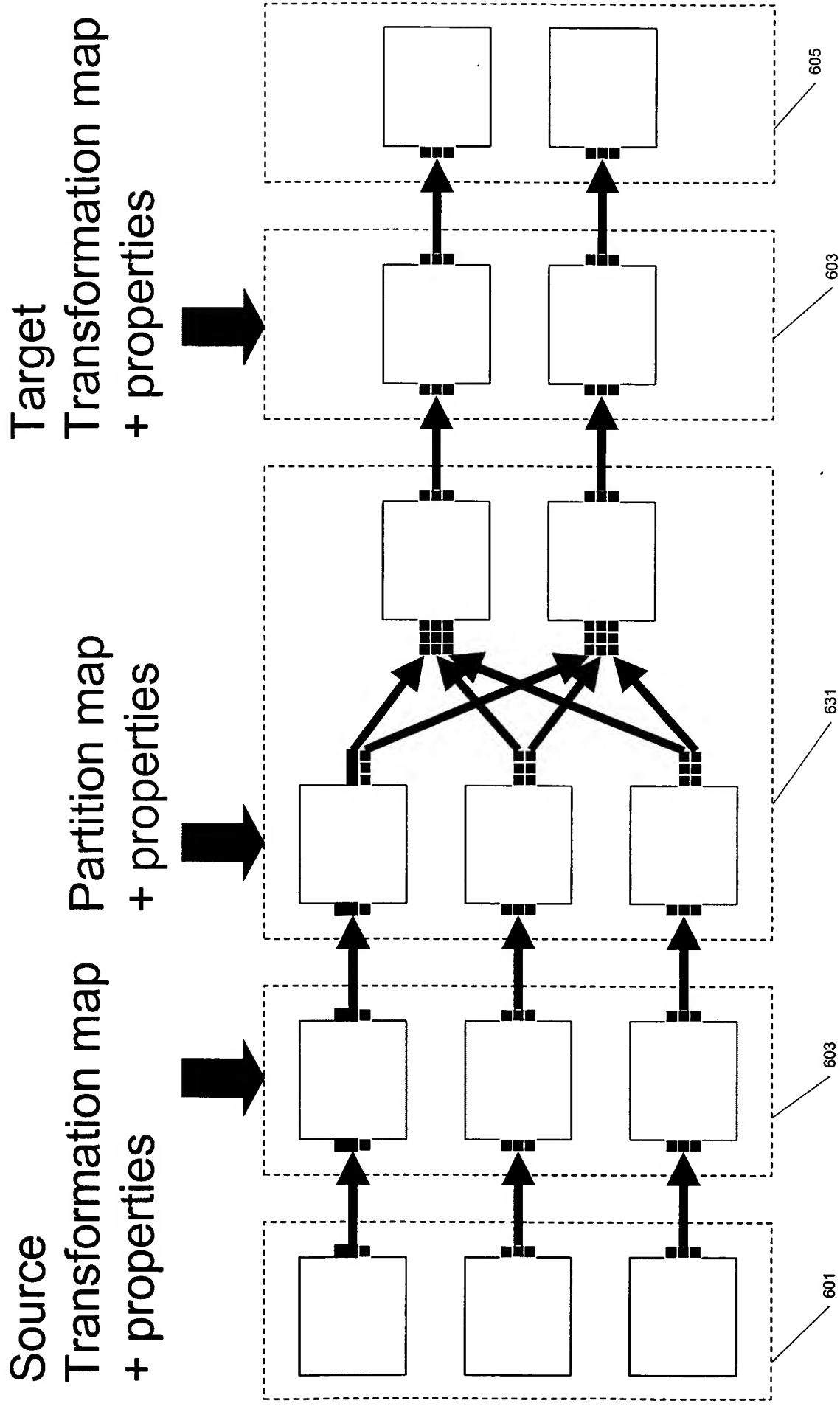


Fig. 27



Hyper Partition corrects Partition Schema Mismatch

Fig. 28

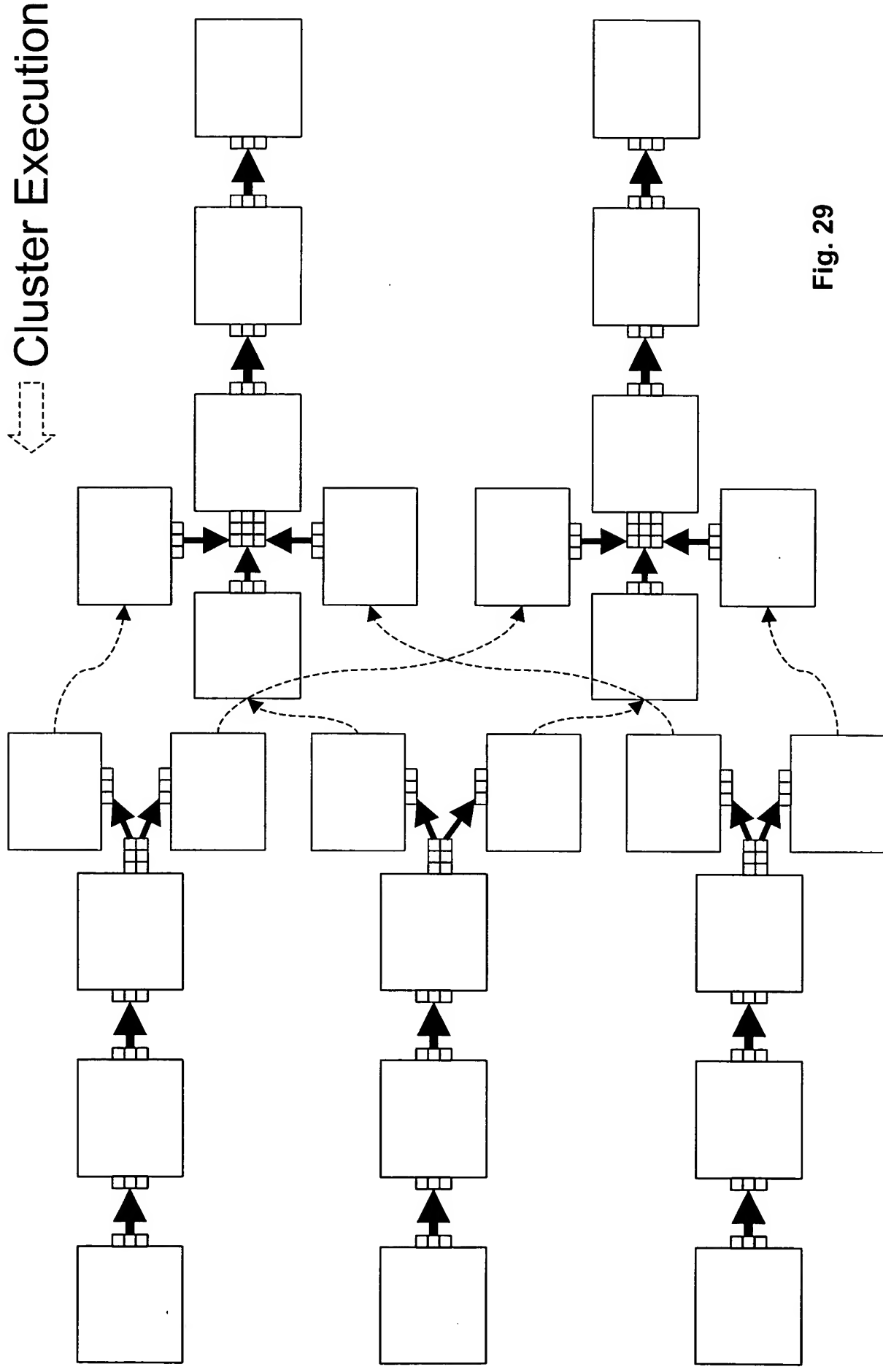


Fig. 29

Cluster Execution of Hyper Partition Pattern

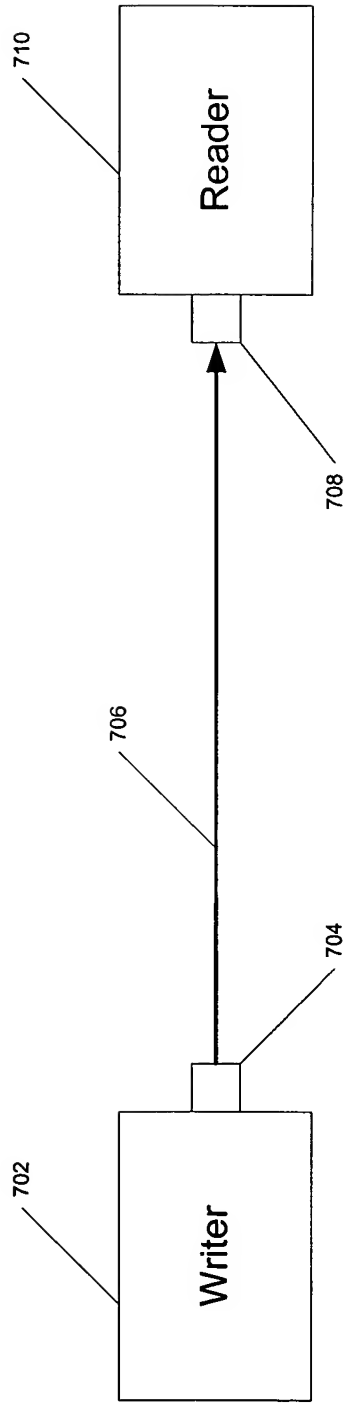


Fig. 30